

(12) INTERNATIONAL APPLICATION PUBLISHED UNDER THE PATENT COOPERATION TREATY (PCT)

(19) World Intellectual Property Organization International Bureau



(43) International Publication Date  
27 May 2004 (27.05.2004)

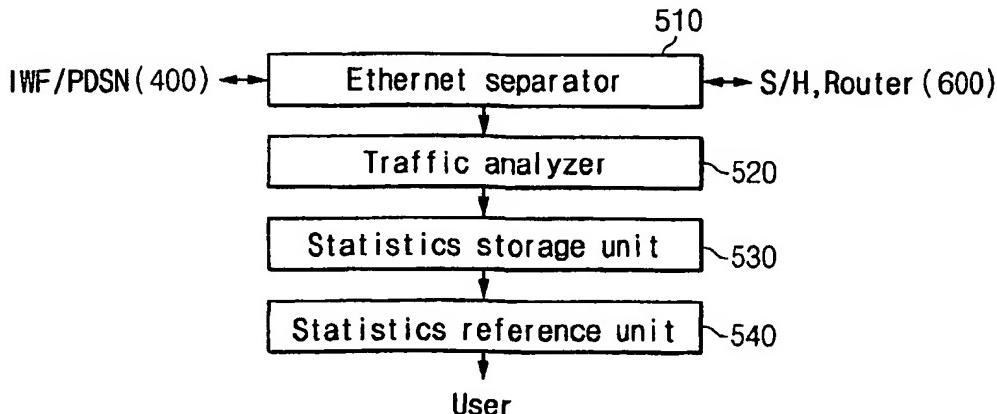
PCT

(10) International Publication Number  
**WO 2004/045143 A1**

- (51) International Patent Classification<sup>7</sup>: H04L 12/14
- (21) International Application Number: PCT/KR2003/002446
- (22) International Filing Date: 13 November 2003 (13.11.2003)
- (25) Filing Language: Korean
- (26) Publication Language: English
- (30) Priority Data:
- |                 |                               |    |
|-----------------|-------------------------------|----|
| 10-2002-0070357 | 13 November 2002 (13.11.2002) | KR |
| 10-2002-0070358 | 13 November 2002 (13.11.2002) | KR |
| 10-2002-0070359 | 13 November 2002 (13.11.2002) | KR |
- (71) Applicant (for all designated States except US): KT-FREETEL CO., LTD. [KR/KR]; 890-20, Daechi-dong, Gangnam-gu, 135-280 Seoul (KR).
- (72) Inventors; and
- (75) Inventors/Applicants (for US only): SEO, Kyoung-II [KR/KR]; 103-303 Hansin apt., Ilwon-dong, Gangnam-gu, 135-230 Seoul (KR). KIM, Yong-Beom
- (54) Agent: YOU ME PATENT & LAW FIRM; Teheran Bldg., 825-33, Yoksam-dong, Kangnam-ku, Seoul 135-080 (KR).
- (81) Designated States (national): AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW.
- (84) Designated States (regional): ARIPO patent (BW, GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW),

[Continued on next page]

(54) Title: APPARATUS FOR ANALYZING THE PACKET DATA ON MOBILE COMMUNICATION NETWORK AND METHOD THEREOF



(57) Abstract: A packet data analyzer on a mobile communication network for analyzing packet data traffic, monitoring services, generating billing information per data service, and monitoring the network based on a protocol analysis, comprises a packet data separator provided between one of a mobile communication exchange and a packet controller that provide a wireless data service to the subscriber, and the service server, for separating user packet data transmitted between one of the mobile communication exchange and the packet controller and the service server, and receiving the user packet data; a traffic analyzer for separating the user packet data received through the packet data separator according to transmission directions, and analyzing the user packet data; a statistics storage unit for storing and managing result data analyzed by the traffic analyzer; and a statistics reference unit for retrieving data stored in the statistics storage unit, and providing statistical information desired by the user.

WO 2004/045143 A1



Eurasian patent (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European patent (AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PT, RO, SB, SI, SK, TR), OAPI patent (BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NI, SN, TD, TG).

*For two-letter codes and other abbreviations, refer to the "Guidance Notes on Codes and Abbreviations" appearing at the beginning of each regular issue of the PCT Gazette.*

**Published:**

- *with international search report*

# INTERNATIONAL SEARCH REPORT

International application No.  
PCT/KR2003/002446

<b>A. CLASSIFICATION OF SUBJECT MATTER</b>		
IPC7 H04L 12/14		
According to International Patent Classification (IPC) or to both national classification and IPC		
<b>B. FIELDS SEARCHED</b>		
Minimum documentation searched (classification system followed by classification symbols)		
IPC7 H04L12/28, H04L29/06		
Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched Korean Patents and applications for inventions since 1990		
Electronic data base consulted during the international search (name of data base and, where practicable, search terms used) ESPACENET "analyzing", "packet", "mobile", "communication"		
<b>C. DOCUMENTS CONSIDERED TO BE RELEVANT</b>		
Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
P,A	KR, 2002085898 (C&C INSTR CO LTD (KR)), 18 Nov. 2002 (18. 11. 2002), see the whole document	1
A	EP, 1014623 (MITSUBISHI MATERIALS CORP (JP)), 28 Jun. 2000 (28. 6. 2000), see the whole document	1
A	EP, 0938222 (SAMSUNG ELECTRONICS CO LTD (KR)), 25 Aug. 1999 (25. 8. 1999), see the whole document	1
<input type="checkbox"/> Further documents are listed in the continuation of Box C. <input type="checkbox"/> See patent family annex.		
* Special categories of cited documents: "A" document defining the general state of the art which is not considered to be of particular relevance "E" earlier application or patent but published on or after the international filing date "L" document which may throw doubts on priority claim(s) or which is cited to establish the publication date of citation or other special reason (as specified) "O" document referring to an oral disclosure, use, exhibition or other means "P" document published prior to the international filing date but later than the priority date claimed		
"T" later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention "X" document of particular relevance; the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone "Y" document of particular relevance; the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art "&" document member of the same patent family		
Date of the actual completion of the international search	Date of mailing of the international search report	
11 FEBRUARY 2004 (11.02.2004)	12 FEBRUARY 2004 (12.02.2004)	
Name and mailing address of the ISA/KR  Korean Intellectual Property Office 920 Dunsan-dong, Seo-gu, Daejeon 302-701, Republic of Korea Facsimile No. 82-42-472-7140	Authorized officer  SEONG, Baek Moon  Telephone No. 82-42-481-5689	